



Overview

This article defines, describes, and explains severe weather events and is accompanied by photographs, maps, and diagrams to illustrate the topic. *Severe Weather* uses the features and structures of informational text in ways that give opportunities to teach the students to use text structure as an important support for comprehension. Students can also use the text as a model for their own informational writing.

The many captioned photographs allow students to make connections with their own experiences and to understand the impact of severe weather on the land and on people's lives. The text offers opportunities for students to build on two key competencies: thinking; and using language, symbols, and texts.

The standard and embedded-support audio versions of this text are available at www.schooljournalstorylibrary.tki.org.nz. The embedded-support version could be used as a first reading to familiarise students with the text.

Texts related by theme

Connected Level 3, 2012 | "The Matata Flood" SJ 4.1.07 | "Trapped in the Snow" SJ 4.2.00

Text characteristics from the year 6 reading standard

a significant amount of vocabulary that is unfamiliar to the students (including academic and content-specific words and phrases), which is generally explained in the text by words or illustrations

some ideas and information that are conveyed indirectly and require students to infer by drawing on several related pieces of information in the text

sentences that vary in length and in structure (for example, sentences that begin in different ways and different kinds of complex sentences with a number of subordinate clauses)

How is the weather at your place today? Is it severe?

Bad weather that affects people's lives or that damages property is called "severe". Every year, severe weather events happen throughout New Zealand. Severe events include floods, droughts, tornadoes, cyclones, and heavy snowfalls.

Snow falling in Johnsonville, Wellington, 2011

A boy cycles down a flooded street in Martinborough, 2006

A tornado forming in the sky above Auckland, 2006

WHAT IS WEATHER?

Weather is what happens outside, such as how sunny, cloudy, windy, or wet it is. The islands of New Zealand lie in a windy part of the Pacific Ocean. Therefore, the weather in this country can change very quickly. It might be sunny and warm in the morning, but cold and wet by the afternoon.

The nearest land, Australia, is a long way away from New Zealand. Australia is a continent, not an island. Continents have hotter summers and colder winters, but they also have more days of settled weather.

The "Roaring Forties" is the name given to the strong westerly winds in the Southern Hemisphere.

illustrations, photographs, text boxes, diagrams, maps, charts, and graphs that clarify or extend the text and may require some interpretation

some information that is irrelevant to the identified purpose for reading (that is, some competing information), which students need to identify and reject as they integrate pieces of information in order to answer questions

Possible curriculum contexts

SCIENCE (Planet Earth and Beyond)

Level 3: Earth systems – Appreciate that water, air, rocks and soil, and life forms make up our planet and recognise that these are also Earth's resources.

Level 3: Interacting systems – Investigate the water cycle and its effect on climate, landforms, and life.

ENGLISH (Reading)

Level 3: Ideas – Show a developing understanding of ideas within, across, and beyond texts.

Level 3: Structure – Show a developing understanding of text structures.

Possible reading purposes

- To learn about different kinds of severe weather
- To think critically about some of the effects that different weather patterns can have
- To explore how to use a text structure as a support when reading.

Page 4 has suggestions for writing instruction.

For more support and suggestions for accelerating students' writing, see *Teaching Writing across the Curriculum in Years 4–6* on the Writing Hub.



The Writing Hub

Text and language challenges

VOCABULARY:

- Possible unfamiliar and/or topic-specific words and phrases, including “droughts”, “tornadoes”, “cyclones”, “Therefore”, “equator”, “southerly”, “westerlies”, “rebuilding”, “ute”, “predict”, “warnings”, “tropical”, “thunderstorms”, “extremely”, “hurricanes”, “typhoons”, “merged”, “gusts”, “rescued”, “harbour tugs”, “yachts”, “evacuated”, “shelter”, “caravans”, “region”, “concrete”, “communities”, “recover”, “spinning column”, “rotate”, “funnel-shaped”, “destructive”, “normally”, “devastating”, “havoc”, “widespread”, “lighthouse”, “snowdrifts”
- The compound words: “rainfall”, “rainwater”, “floodwater”, “thunderstorms”, “widespread”, “snowfall”, “lighthouse”, “snowdrifts”.

Possible supporting strategies

Identify vocabulary, including technical terms, that may be challenging for your students. Use strategies to support them to understand these terms, such as:

- discussing different kinds of weather and creating a word web or chart to record weather words
- reviewing how to use a glossary
- examining weather reports together and discussing the meanings of any unfamiliar terms
- making notes in their own (or the class) vocabulary notebook about key words and terms.

If the students have difficulty with working out words, help them to identify useful strategies, for example, using the part of “cyclone” that is familiar from knowing “cycle”. Irregular words such as “drought” may pose problems for some students. Focus only on the most frequently used words (for reading and writing) with this spelling and pronunciation pattern. *The English Language Learning Progressions: Introduction*, pages 39–46, has some useful information about learning vocabulary.

SPECIFIC KNOWLEDGE REQUIRED:

- Experience of a variety of weather
- Some direct or indirect knowledge of a severe weather event
- Knowledge of weather forecasts (radio, TV, Internet, newspaper)
- Experience of using maps and diagrams to support understanding in a text.

Possible supporting strategies

Provide opportunities for the students to review what they already know about the weather and, in particular, about the causes and effects of severe weather events. Ask students with direct experiences to share their knowledge, describing what they saw, heard, and felt. Use video clips, articles, stories, or news reports of severe weather events to generate discussion and sharing of knowledge and key vocabulary.

Gather several examples of weather maps and forecasts in different media and prompt the students to discuss the ways they “read” these sources of information. Students who have a first language other than English would benefit from exploring the concepts and content in this language before reading.

TEXT FEATURES AND STRUCTURE:

- Descriptions and explanations
- The glossary
- Table of contents
- Headings and subheadings
- Introductory section
- The use of maps
- Captioned photographs
- The use of definitions and explanations of terms within the text
- The use of examples to illustrate different weather events
- The use of language that signals cause and effect relationships, such as sentences with “affects”, “makes”, “causes”
- Many passive verb forms
- Mostly present verb forms to describe things that are always true.

Possible supporting strategies

Preview the text with the students to help them to make links between the text and their prior knowledge of similar features and structures. Show them how to use clues (such as the table of contents) to predict what they will read about and how the information is organised.

Point out the captioned photos, the maps, and the glossary and explain how they can be used. Students may need support to understand some map features, in particular those on pages 3 and 4. The maps on page 3 show latitude lines that students may need support to understand: the key feature here is the identification of the area known as the “Roaring Forties” and why it is so named.

Have the students think about the meaning of each clause in an example sentence with “makes” or “causes” and prompt them to identify which part is the cause and which the effect. Have them identify further examples in the text. As you focus on the reading purpose during and after reading, remind them to pay attention to these signal words and what they mean. If appropriate for your students, tell them that these are examples of a very broad group of connectives that can signal a range of relationships and that help text flow. Tell them that connectives are an important feature of texts and over time you'll be looking at many different types. You could start the first of several connectives charts, organised according to the types of relationships they signal (for example, cause and effect, time, sequence, and comparison).

It may be appropriate for some students to read the text the first time with the standard audio track or the embedded-support audio track.



Sounds and Words

Instructional focus – Reading

Science (Planet Earth and Beyond) (Earth systems: Appreciate that water, air, rocks and soil,

and life forms make up our planet and recognise that these are also Earth's resources.)

(Interacting systems: Investigate the water cycle and its effect on climate, landforms, and life.)

English (Structure: Show a developing understanding of text structures.)

(Ideas: Show a developing understanding of ideas within, across, and beyond texts.)

Text excerpts from *Severe Weather*

Students

(what to prompt, support, and look for as the students are reading)

Teacher

(possible deliberate acts of teaching)

How is the weather at your place today? Is it severe?

Bad weather that affects people's lives or that damages property is called "severe".

Every year, severe weather events happen throughout New Zealand. Severe events include floods, droughts, tornadoes, cyclones, and heavy snowfalls.

DEMANDS OF THE TEXT

Students need to:

- clarify their reading purpose
- think about their responses to the questions and ask themselves further questions
- make connections between the text and their experiences.

The most common winds in New Zealand are westerlies, which bring warm air across the Tasman Sea. As this warm air moves, it picks up water vapour, which is held in the clouds. As these clouds are pushed over the Southern Alps, they drop the water as rain. This makes the west coast of the South Island wetter than areas east of the alps, such as Canterbury.

DEMANDS OF THE TEXT

Students need to:

- vary their reading pace and focus to process and integrate information about two different climates
- use signal words to identify sequence and a cause and effect relationship
- use the direction indicators on the map and the diagram to understand the orientation of the diagram.

Students use their knowledge of informational texts and their understanding of the table of contents to infer that this page is an introduction to the topic. They can articulate a purpose for reading, such as to learn why we have severe weather events.

Students ask and answer questions about their own weather experiences and use the definition in the first sentence to determine whether or not those could be classed as severe. They think critically about the relativity of "severe" as they align their own experiences with those described in the text so far.

Students integrate information from the previous page with the words, the map, and the diagram to understand that westerly winds are those that come from the west and are a feature of the latitudes New Zealand lies in.

Students draw on their knowledge of vocabulary, sentence structure, and text patterns to identify the sequence. They identify the words used to signal stages in the sequence ("As") and to signal cause and effect ("This makes").

Students ask and answer questions about the diagram as they work out that it shows the West Coast from a different orientation from the inset map and that it illustrates the sequence described in the extract.

MODEL using your knowledge of text structure as you prepare for reading.

- The contents page shows me what will be covered in the text, the order of the sections, and that the Severe Weather section will cover five different forms of weather – the subheadings show me this. There is a glossary, so I know that hard words in the text will be in bold font.

For students who need support, you could brainstorm each heading, predicting what each section will talk about and highlighting key vocabulary and concepts before reading.

PROMPT the students to think critically as they read.

- We've all used words like "severe" and "extreme" when we describe something we've been through. Why can something seem "severe" to one person but not to another? How do you think weather forecasters get around people's different perceptions when they describe weather?

GIVE FEEDBACK

- You've identified the photos and maps as features you used to help you understand a text. Writers put them there to illustrate the ideas they describe in words.

MONITORING THE IMPACT OF TEACHING

Monitor the students' responses carefully as they skim and then start reading. Notice those who appear to read too quickly, indicating that they may not be taking time to make connections between different parts of the text. Students who are reading very slowly may need support to increase fluency so they don't lose track of the content.

PROMPT the students to slow down as they read this page, focusing on understanding the diagram and the explanation.

- What information on the previous page can help you here?
- What is the purpose of each part of the diagram?

DIRECT the students to work in pairs: one person reads the extract while the other points to the parts of the diagram that show what is happening.

- How are the compass arrows different on the map and on the diagram?

ASK QUESTIONS to support the students to identify the causes and effects of the wind patterns described here.

- What happens when the clouds move over the mountains?
- What is the effect of the westerly wind?
- Which words help you follow the stages of this process?

GIVE FEEDBACK

- I noticed you slowed down on this page and used your finger to trace the movement of the wind over the sea. Slowing down and focusing are good strategies to use when a text has complex diagrams and explanations.

MONITORING THE IMPACT OF TEACHING

If the students find the sequence difficult to follow, write the steps in a bulleted list. Model the way you can match each step to a part of the diagram. Remind the students to monitor their reading and to slow down and reread if they don't "get it". This may mean turning back to the previous page to ensure they can integrate all the information about westerly winds.

In a drought, farm animals get thinner and cows make less milk because there is not enough grass for them. Water has to be used very carefully so that it doesn't run out. Because of a drought, farmers earn less from their farms and have to spend more. It can take several years for farmers and their communities to recover from a drought.

DEMANDS OF THE TEXT

Students need to:

- ask questions and search for answers
- make connections between the text and other knowledge they have about droughts
- make inferences about the effects of a drought
- think critically about the impact of severe weather.

METACOGNITION

- What features of the text and its structure helped you to understand it? For example, how did you use the headings as you read?
- Show me some places where your own experiences and knowledge helped you understand ideas in this book. How did using those connections help you?
- What pieces of information did you integrate across the text? What did you do with each piece of information? How did this help you to understand more about national or global issues?

The students apply what they know about nutrition to understand why cows make less milk in a drought. They use this knowledge to infer that farmers have to spend more because they need to buy in extra food for their animals.

They make connections between the text and their prior knowledge of water conservation to understand the implications of water use in a drought.

Students use information in the text and their own understanding of earning and losing income to infer the reasons it takes time to recover from a drought. They use what they know about the businesses farmers use to further infer the reasons that a farming community also takes time to recover from a drought.

With support, the students integrate and evaluate ideas across the text as they think critically about the way severe weather can affect local, regional, and international communities.

Read this extract aloud with the students. Ask them to explore it, sentence by sentence, with a partner to identify the main ideas of each sentence and then to discuss the implications of, reasons for, or effects of these ideas.

MODEL this, using the first sentence.

- The main idea is that if cows get thin, they don't make as much milk. From this, I can work out that cows need plenty of grass to make milk and that grass needs plenty of water. If it doesn't rain, the grass won't grow well and the cows will get thin because they aren't getting enough food. I've used my own knowledge of the importance of good nutrition to help me understand this.

Listen in carefully to the students' discussions and, if necessary, give on-the-spot feedback to help them to stay on task. This could mean asking a question to prompt thinking, such as "What services or businesses in the community could be affected if farmers didn't have much money?"

PROMPT the students to think critically about what they are reading.

- Look at the photo on page 7 of a flood in Paeroa. You've read about floods on page 10. What do you think some long-term effects of severe weather events could be in New Zealand?
- What connections have you made between this text and reports you've heard or read about severe weather events in other parts of the world?

GIVE FEEDBACK

- You made some good inferences as you read the passage together. Sharing these helped us to understand that farming can be a very risky job.
- I noticed you integrated ideas from across the text to understand how weather can affect a community.

MONITORING THE IMPACT OF TEACHING

- Take critical thinking one step at a time, for example, by asking the students to compare and comment on the photos on pages 7 and 11. Pick up on comments that show deeper thinking and ask them to expand on their ideas.

AUDIO TRACKS

Audio tracks of this text are available at: www.schooljournalstorylibrary.tki.org.nz

- Use the standard audio track to support students' comprehension and fluency following reading.
- Use the embedded-support audio track for students who may need further support during reading.

Suggestions for writing instruction

- Now that you've used the structure of this text to help you read it, how can you use this in your writing? One way to start could be to draft a table of contents that shows the aspects of the topic you want to write about: these could be your main headings. Might you need to use subheadings as well?
- Have you experienced a severe weather event? Write about it as a personal recount. Try out different ways of writing. For example, you can use the past tense to record what happened in the past, or you could use the present tense to describe the event "as it happens". Which style works best?
- When you need to use specialist or technical words in your writing, think about how you can help your readers understand them. Look at the way terms are defined in *Severe Weather*, for example, in the first sentences on page 8 and page 12. You can also use a glossary for some terms.
- Take one example of severe weather and create a fiction based on the impact of a weather event on a group of characters. You could use a graphic organiser to help you to plan your writing.

Continue to support your students as they develop a writing plan, showing them strategies they could use such as mind maps, flow charts, and graphic organisers. Support them to move from the plan to the first draft and to revise their writing. Provide scaffolding to help them to build on their writing strengths, giving them stronger support where needed and reducing it as they take control.

Students may need support to find maps, photos, or diagrams to illustrate their writing. Show them how to search for images or maps on the Internet and how to make charts and graphs using the software available at school. You may be able to match students up (within the class or the school) to offer each other help.